



Department of Health

DISTRICT OF COLUMBIA

***2004 NONPOINT SOURCE
POLLUTION PROGRAM***

ANNUAL REPORT

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District of Columbia
Department of Health
Environmental Health Administration
Bureau of Environmental Quality
Watershed Protection Division

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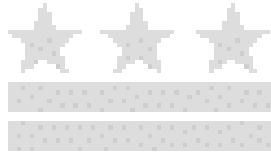


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Mission and Goals of the District of Columbia's Nonpoint Source (NPS) Program

The District of Columbia's Nonpoint Source (NPS) Program envisions Washington, DC as an innovator in the prevention and control of nonpoint source pollution in an urban setting. The Program is a leader in protecting the city's neighborhoods and watersheds from NPS pollution, safeguarding the water and soil resources of the city, as well as the health, welfare, and safety of those using those resources. It also works in partnership with other government agencies, citizens, and private industry by increasing stakeholder awareness and involvement in the clean-up efforts along the Anacostia River, Chesapeake Bay, and other local waterways, and by equipping city residents with the knowledge and tools to help them prevent nonpoint source pollution in their neighborhood streams.

The NPS Program has set long-term goals and established short-term milestones that mark progress towards its goals. Listed below, these goals aim to reduce NPS pollution from urban runoff, construction, and hydrologic/habitat modification. A more thorough discussion of the Program's goals and milestones can be found in the District's *Nonpoint Source Management Plan II* (2000).

- Supporting activities that reduce pollutant loads from urban runoff, construction activity, combined sewer overflows, and trash disposal for the purpose of attaining present designated uses by 2015 and future designated uses by 2025
- Supporting programs and activities that strive to restore and maintain healthy habitat, species diversity, and water flows to all of the tributaries of the Anacostia River by 2015, and to all surface waters of the District of Columbia by 2025 by restoring degraded systems and preserving healthy and threatened ones
- Coordinating the District's NPS Program efforts with other District, federal, and private sector programs and adjoining jurisdictions to provide the best delivery of services to prevent and control NPS pollution in the District of Columbia with the resources available
- Carrying out effective information and education campaigns on preventing NPS pollution to targeted audiences who live, work, teach, or visit in the District of Columbia and its watersheds, reaching at least 10,000 individuals each year

Executive Summary

This annual report is written in response to Sections 319 (h)(8) and (11) of the Clean Water Act (33 USC 1329), for the purpose of documenting the progress made in 2004 by the District of Columbia in implementing its *Nonpoint Source Management Plan II: Addressing Polluted Runoff in an Urban Environment* (2000).

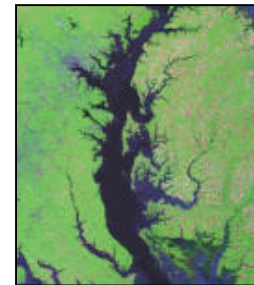
As in previous years, the District of Columbia's NPS Program has made significant progress toward achieving its goals. Accomplishments from fiscal year 2004 include the following:

Regulated construction activities throughout the District by reviewing 2,293 construction plans, inspecting 6,694 construction sites, and inspecting 209 stormwater management facilities. In combination with the issuance of 200 enforcement actions, this work ensured compliance with the most current stormwater, sedimentation, and erosion control laws.



Promoted the use of Low Impact Development (LID) practices throughout the District by: hosting a stormwater and erosion control workshop and trade show, sponsoring the "Put a LID on it!" campaign, serving on the steering committee for the 2004 National LID Conference at the University of Maryland, and directly funding the construction of various showcase LID projects, such as the green roof atop the Casey Trees Foundation's 1425 K Street, NW, office building.

Contributed to the regional effort to protect the Chesapeake Bay by developing and implementing the District's own "Tributary Strategies." This plan will guide the city as it works to achieve and maintain its pollutant loading goals.



Teamed up with government and non-profit partners to provide "Meaningful Bay Experiences" for over 1,300 District youth in FY04. These experiences included overnight environmental camps at Hard Bargain Farm and Camp Riverview, as well as the hands-on Trees for Kids and DC Urban Tree House learning programs.



Newly certified two Anacostia River marinas under the District's Clean Marina Program, a voluntary program through which marinas and boat club operators make their operations more environmentally responsible.

The highly urbanized setting and multiplicity of land ownership within Washington, DC can create unique challenges for the NPS Program's pollution reduction efforts. However, these circumstances can also provide opportunities to form creative partnerships and test innovative technologies.

An ongoing goal of the NPS Program is to continue to develop monitoring and measurement techniques to further assess the effectiveness of NPS pollution control programs. In 2005, the District will continue to strengthen its existing regulation and enforcement, stream and wetland restoration, education, and pollution prevention programs, while moving steadily toward accomplishment of its long-term goals.



The District of Columbia's Nonpoint Source Program

In 1990, the government of the District of Columbia formed its NPS Program to address the control and prevention of NPS pollution impacting the District's surface and ground waters. In January 1998, the NPS regulation program was transferred to the District's Department of Health (DOH), under the Environmental Health Administration (EHA). As part of this programmatic realignment, the District of Columbia established the Watershed Protection Division (WPD) in October 1998. It is this division that is responsible for the NPS Management Program.

To assess the health of all significant waterbodies in the District, and to prioritize water quality improvement efforts, DOH conducts monitoring on a regular basis. Based on these activities, waterbodies are characterized according to impairment and threats. The District of Columbia prepares Section 305(b) reports as required by the federal *Clean Water Act*. The 2004 305(b) report described many of the District's waterbodies as not supporting their swimmable (primary contact recreation) and fishable (fish consumption) uses.

A ubiquitous source of pollutants to the District's waterbodies is urban runoff. Primary NPS pollutants of concern include nutrients, sediment, toxicants, pathogens, and hydrocarbons. The few waterbodies that partially or fully support a designated use are also threatened by NPS pollutants. A process to rank watersheds for NPS implementation in the District, conducted by the District's NPS Program in 1995, determined that the Anacostia River and its tributaries should receive highest priority. The outcome of this formal ranking process further galvanized the EHA's prior belief that the Anacostia River was the District's most daunting water quality problem. For more than 10 years, the District of Columbia has been using the watershed approach to raise awareness and unite public and private sector resources to tackle the water quality problems of the Anacostia River.

To properly address the water quality problems associated with the District's urban environment, the District amended its approved *NPS Management Plan* (1989) and created the *Nonpoint Source Management Plan II, Addressing Polluted Runoff in an Urban Environment* (2000). This document outlines a comprehensive strategy for managing nonpoint source pollution in an urban environment in an effort to restore beneficial uses to the District's waterways by the year 2015, and future beneficial uses by the year 2025. The Plan sets goals and objectives that will be achieved in the long run by the completion of specific, short-term (5-year) milestones.

The District employs both regulatory and non-regulatory approaches to reach its NPS milestones. Department of Health, Environmental Health Administration, programs that fall under regulation and enforcement include the:

- *Stormwater Management Program*
- *Soil Erosion and Sediment Control Program*
- *Floodplain Management Program*
- *Compliance and Enforcement Program*

In combination, the aim of these programs is to ensure that any development or construction activities occurring within the District properly control potential erosion or runoff from their site areas, and properly adhere to all federal and city laws relating to floodplains and waterways. In addition, these programs ensure that best management practices (BMPs) are installed correctly and receive appropriate maintenance and upkeep.

Non-regulatory programs include:

- *Habitat creation and restoration programs*
- *Use of low impact development (LID) technology*
- *Education and outreach programs*
- *Pollution prevention programs*

Through these non-regulatory programs, the District can educate community members about the issue of NPS pollution and how their actions contribute to it, with the ultimate goal of changing personal behavior for an effective long-term solution. Additionally, through stream and wetland restoration projects and LID, the District can test and develop innovative approaches to reducing urban NPS pollution, and provide support and financial incentives for citizens to implement LID and pollution prevention techniques on their own.

The District also develops partnerships and collaborations to address the issue of NPS pollution. In recent years, the District also has begun to work more closely with federal agencies to ensure that NPS pollution prevention is addressed on both city and federal lands.

Overall, the NPS management strategy attempts to change the mindset and actions of individuals and communities, elected leaders, and agency heads, to concentrate activities on targeted tributaries, and to strictly enforce regulations that protect the District's water quality and natural resources. The District does not shoulder the entire load, but rather combines assistance from many stakeholders and partners, in an effort to deliver clean water and healthy watersheds to the citizens of the Capitol city and its visitors.

Sediment, Stormwater, Floodplain Management and Low Impact Development

Highlights:

- ✧ Reviewed 2,293 construction plans for compliance with sediment and stormwater pollution control
- ✧ Processed environmental impact screening forms for 38 projects
- ✧ Received 16 applications for innovative stormwater project support through WPD's "Put a LID on it!" program
- ✧ Showcase LID – Funded a number of demonstration projects throughout the District, including a bioretention cell along Benning Road, a green roof at Casey Trees Foundation's K St. office building, and the first LID project on Architect of the Capitol grounds
- ✧ Presented two stormwater technical papers at the 2004 North American Surface Water Quality Conference

Construction Plan Review

In FY04, to meet its objective of reducing the amount of untreated stormwater from construction sites, the Watershed Protection Division reviewed approximately 2,293 construction plans for compliance with sediment and stormwater pollution control. This review process led to the approval of 1,689 of these plans. The number of reviews and approvals



exceeded the Department's annual targets of 1,200 reviews and 1,200 approvals.

Environmental Impact Regulation

In 2004, WPD reviewed environmental impact screening forms for 38 projects, and one Environmental Impact Study for Georgetown's mixed use Harbourside Development Project. The study, which weighed the environmental impacts associated with the construction of an embassy and commercial and residential facilities, was reviewed for compliance with the District's Environmental Policy Act, as well as the National Environmental Policy Act (NEPA).

"Put a LID on it!"

At a Washington Navy Yard workshop in FY03, WPD unveiled its "Put a LID on it!" program for funding innovative stormwater control projects in the District. Under the program, District property owners can apply for LID funding via a formalized application process, which weighs the technical merits and viability of each project based upon predetermined criteria. The WPD received 16 applications throughout the course of FY04. During FY05, WPD plans to review and fund a portion of these projects based upon their ability to meet multiple objectives, including stormwater quality and quantity treatment, site visibility, and potential site longevity.



Showcase LID Projects

Throughout FY04, District 319 funds were used for the design and/or construction of a number of low impact development demonstration projects to help mitigate stormwater flows. Some of these showcase projects are:

Sediment, Stormwater, Floodplain Management and Low Impact Development (cont.)

Benning Road: The WPD funded the design of a bioretention cell, on Kingman Island, that handles stormwater from an approximate 18,000 sq. ft. stretch of Benning Road and Bridge. From the bioretention cell, the filtered stormwater drains directly into the Anacostia River.

Casey Trees Foundation: The EHA helped fund the design and construction of a



3,500 sq. ft. green roof for the Casey Trees 1425 K Street, NW, office building.

A GIS analysis of the downtown commercial core of the District showed that if 80% of rooftops were equipped with green roofs, stormwater runoff could be reduced by 56%.

Capitol Hill: One of WPD's flagship LID projects was constructed in FY04. Located on Capitol Hill, at the corner of First and D Streets, NE, this project is the first LID BMP installed on Architect of the Capitol (AOC) property. AOC is responsible to the U.S. Congress for the maintenance, operation, development, and preservation of the United States Capitol Complex, which includes the Capitol, the congressional office buildings, the Library of Congress buildings, the Supreme Court building, and other facilities. The completed raingarden occupies a 65'x15' area and treats runoff



from 4,500 sq. ft. of pavement from a highly visible Senate office parking lot.

Stormwater Technical Papers

Staff members from WPD presented two papers at the North American Surface Water Quality Conference held July 26-29 in Palm Desert, California. The first paper is titled, *Implementation of a Stormwater Management Permitting Program for NPDES Phase II Compliance in Washington, DC*, and the second is, *Inspection Requirements for Stormwater Best Management Practices in the District of Columbia*. These papers outline District program details and share some of the lessons learned from their regulatory activities.

Inspection and Enforcement

Highlights:

- ✂ Conducted 6,694 inspections at construction sites and 209 at stormwater management facilities to ensure compliance, and also issued 212 enforcement actions and responded to 95 citizen complaints
- ✂ Worked to remove statutory impediments to LID throughout the DC Construction Codes
- ✂ Hosted a stormwater and erosion control workshop and trade show, attended by over 150 individuals

Ensuring Compliance with DC Regulations

During FY04, WPD's Inspection and Enforcement Branch improved compliance with the District's erosion and sediment control and stormwater management regulations by conducting 6,694 inspections at construction sites and 209 at stormwater management facilities. Both of these statistics are increases of their 2003 marks. Additionally, 212 enforcement actions were taken to ensure prompt compliance, and 95 citizen complaints regarding erosion and drainage issues were investigated.



Low Impact Development Impediment Removal

Significant changes were made in the recently adopted DC Construction Codes to remove impediments to Low Impact Development (LID). These codes included changes to the International

Plumbing Code and the International Existing Building Code that will facilitate the Rain Leader Disconnection Program.

Changes to Section 1101.2 of the DC Plumbing Code were proposed in order to eliminate perceived obstacles to the voluntary use of LID. Programs such as rain leader disconnection for new developments, which would allow runoff to be channeled to grassy areas for infiltration instead of direct conveyance to the sewer system, could then be encouraged. Changes to the Plumbing Section of Chapter 7 of the International Existing Building Code were proposed to allow the disconnection of downspouts in existing buildings that are undergoing alterations and repairs, provided the estimated cost of such repairs equals or exceeds the assessed value of the property before the start of the alterations and repairs, and provided the existing downspouts are connected to a sanitary or a combined sewer system.

DOH Conference on Erosion and Stormwater Control

As part of its efforts to educate the regulated community, DOH conducted a workshop and trade show highlighting emerging and best available technology in soil erosion and storm water management. The workshop and trade show was held on April 28-29, 2004, at the University of the District of Columbia (UDC), and was co-sponsored by the Mid-Atlantic Chapter of the International Erosion Control Association and UDC. Over 150 individuals attended the conference.

Other Activities

LID Conference Presentation: On September 21, 2004, WPD presented a technical paper titled, *Inspection Requirements for LID BMPs in the District of Columbia* at the National LID Conference in College Park,

Inspection and Enforcement (cont.)

MD. The paper demonstrates the importance of adequate and timely inspection to overall BMP efficacy.

Contractor Certification Program: In FY04, WPD drafted amendments to the District's Soil Erosion and Sedimentation regulations that will incorporate the new contractor certification program. Overall, the program will result in increased contractor compliance and reduced sediment and nutrient loads in District waters and the Chesapeake Bay.

Habitat Creation and Restoration

Highlights:

- ✂ Monitored vegetation growth in the recently constructed 16 acre Anacostia River Fringe wetlands
- ✂ Wrote Watershed Implementation Plans (WIPs) for three Anacostia River tributaries
- ✂ Submitted the District's Tributary Strategy to the Chesapeake Bay Program
- ✂ Continued work on stream restoration designs for 3 miles of Watts Branch, 5.5 miles of Oxon Run, 1 mile of Hickey Run, and 1.5 miles of Pope Branch
- ✂ Riverside plantings at Kingman Island and RFK Stadium — over 150 youth and 200 adult volunteers restored approximately 3.5 acres of riparian buffer

Anacostia River Fringe Wetland Monitoring

During FY03, the 16-acre River Fringe wetlands were completed, following the success of the 40-acre Kingman Lake wetlands, created in 2000. In FY04, WPD continued the vegetation monitoring of the River Fringe wetlands. This monitoring has shown that the wetlands now contain over 40 species of plants one year after planting. Coverage percentages ranged from 70 - 130 percent in the 48 plots. WPD partnered with U.S. Geological Survey (USGS) staff to collect data during two sampling seasons, and will begin some preliminary analysis of the data in 2005. Annuals comprised a good

portion of the total vegetation coverage, with the presence of Wild Rice (*Zizania aquatica*) being an important addition.



These restored wetlands along the Anacostia River will help create wildlife habitat and improve the river's pollutant filtering capacity. In addition, the projects are a significant component of the multiple agency

Anacostia Waterfront Initiative, and are also a component of the city's objective of promoting a net gain of wetlands within the District. In 2005, WPD will install Sediment Elevation Tables (SETs) to monitor the relative contributions of sediment deposition in the wetlands and dredge material subsidence.

'WIP'ping Stormwater

In 2004, WPD completed Watershed Implementation Plans (WIPs) for Ft. Dupont, Watts Branch, and Pope Branch. Various potential demonstration low impact development (LID) retrofit sites were identified in each of the watersheds, and WPD is currently funding the implementation of nine of these retrofits. WPD will work with various non-profit partners to implement these innovative stormwater management projects and involve the local community in the construction process. It is expected that the stormwater runoff from several acres of pavement will be diverted to the bioretention cells, which are also known as "raingardens." Once they are completed, the benefits of these decentralized, low cost, and innovative stormwater retrofits will be communicated to the public.

Habitat Creation and Restoration (cont.)

Tributary Strategy

In 2004, the District submitted its Tributary Strategy to the Chesapeake Bay Program. This document examines current efforts and future plans to clean District waters tributary to Chesapeake Bay. Nonpoint source pollution reduction programs receive a thorough treatment within the document, as individual sections detail urban stormwater management, erosion and sediment control, street sweeping, catch basin cleaning, low impact development, stream channel restoration, watershed restoration, clean marinas, tree planting, schoolyard conservation, and education and outreach. The Tributary Strategy is the most comprehensive examination to date of current efforts, requirements, and costs of nonpoint source pollution reduction efforts in the District of Columbia. The Watershed Protection Division hopes that the strategy will be the starting point for an evolutionary planning effort aimed at guiding the restoration of District waters.

Watershed, Stream, and Habitat Restoration Design Work

The WPD has worked with federal partners on multiple watershed restoration projects. These projects are part of the District's objective of supporting modification and stabilization projects in eroding streams. The WPD plans to restore four streams (all tributaries of the Anacostia River), addressing watershed issues such as flashy stormwater discharges, resultant stream entrenchment and bank erosion, fish blockages, habitat improvement, water



quality improvement, and negative human impacts such as dumping and property encroachment. The projects are:

Hickey Run: Throughout FY04, WPD continued to advance its goal of bringing channel restoration and a large trash trap and oil separator to the Hickey Run outfall located on U.S. National Arboretum (USNA) property. In January 2004, after an extended period of negotiations, USNA agreed to allow the restoration of three Hickey Run tributaries, in conjunction with the installation of a trash trap and oil separator.



This arrangement was then formalized via the signing of a Memorandum of Understanding (MOU). Assuming USNA is pleased with the U.S. Fish and Wildlife Service's (USFWS) final design and implementation in these tributaries, WPD's hope is that a complete restoration of the main stem can follow. The kick-off meeting for the project was held September 7, 2004 with Earthtech, Inc. as the primary contractor for design and possibly construction. The research stage of the project is expected to last over 6 months. In the end, a series of options will be presented, and depending on what remains of the current \$2.3 million congressionally appointed budget, a BMP could be constructed in the coming years.

Oxon Run: In FY04, USFWS presented two final reports to WPD. The Oxon Run Watershed and Stream Assessment documents current environmental conditions, and the Stream Restoration

Habitat Creation and Restoration (cont.)

Concept Development report contains restoration concept design alternatives and cost estimates for actual restoration, including the use of large LID facilities to control the volume and quality of stormwater entering the stream. Using this information, USFWS and WPD applied for \$1.3 million in matching restoration funds under the U.S. EPA's Watershed Initiative Grants Program, but the application was denied. Throughout 2005, WPD and its partners will continue to seek cost share sources for the estimated \$8 million Oxon Run restoration.

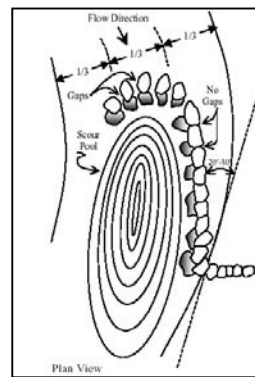


Pope Branch: Due to the loss of funding from the U.S. Army Corps of Engineers (USACE), the District's main partner on the Pope Branch stream restoration project, progress on this project has been delayed. In September 2004, the WPD began discussions with the DC Water and Sewer Authority (WASA) to create a MOU between the two agencies that would allow for WASA to utilize its contracting abilities to obtain a design/build contractor for the Pope Branch stream restoration project that would also entail realigning the existing sewer line in the park that is currently in disrepair. Upon reaching agreement, the two agencies, along with the DC Department of Parks and Recreation, drafted an MOU for the project that is currently under review. It is anticipated that efforts to move forward with the completion of the stream restoration designs will be underway in early 2005. Construction of the stream restoration

project will be dependent upon the contractor selected.

To aid a contractor in the eventual design process, WPD completed a tree and invasive species survey throughout Pope Branch's park buffer in FY04. This information will be used to preserve riparian forest, particularly large diameter riparian trees. In addition, the tree survey will be utilized for invasive species control in the park. The WPD has partnered with Casey Trees who will manage interns that will work on invasive species removal in priority areas identified on the map. Casey Trees is also leading tree-planting activities in the watershed, helping the WPD achieve the WIP goal of planting 100 trees. These plantings will occur in FY05 in Pope Branch Park and throughout the watershed.

Watts Branch: Stream restoration work in Watts Branch also fell victim to poor budgetary planning on the part of the USACE in FY04. Following the USACE's indefinite suspension of work in February, WPD reached an agreement



with the USFWS to pick up the project. Throughout 2004, USFWS has worked on coordinating restoration plans with a number of Watts Branch stakeholders and on gathering requisite data. Design phase

milestones will be reached throughout the spring and summer of 2005, and project construction is expected in the fall. USFWS's final designs will incorporate natural channel modifications, which will produce a battery of environmental improvements in this degraded urban watershed.

Habitat Creation and Restoration (cont.)

Kingman Island and RFK Riparian Buffer Restoration

DOH/WPD organized and participated in 4 buffer planting events adjacent to Kingman Lake that involved over 150 school children and 200 adults in FY04. For the event, DOH/WPD sought and encouraged the participation of the Casey Trees Foundation, the Chesapeake Bay Foundation (Anacostia Office), the Anacostia Watershed Society, and the National Park Service. Children from the Boy Scouts and District students working with the Student Conservation Association also participated in some of the plantings. The result of these plantings is a 100-120 ft. wide tree and shrub buffer (was previously 2-10 ft. wide), extending approximately 500 yards along the Kingman Lake shore.

Environmental Education and Outreach

Highlights:

- ✧ Anacostia Environmental Fair — attended by over 300 District students
- ✧ Planted 115 1-½ inch diameter trees and engaged 30 teachers from 13 District schools in the study of trees as part of the Trees for Kids Project
- ✧ Provided over 1,300 Meaningful Bay Experiences for District students
- ✧ Continued to support the Schoolyard Greening Consortium (SGC), a group WPD formed in FY04 to help guide environmental education efforts
- ✧ Rain Barrel Outreach Program — distributed 125 rain barrels to District residents
- ✧ Schoolyard Conservation Site (SCS) Program — teachers from six schools received training to aid them and their students in the FY05 development of new schoolyard conservation sites
- ✧ Provided training for 193 District teachers in WET, Project Wild, and Project Learning Tree curriculums

Anacostia Environmental Fair

As part of the NPS Program's objective of strengthening environmental education for the District's youth, WPD organized its annual environmental fair on May 9,

2004. At the fair, over 300 students participated in interactive, hands-on environmental education activities, such as catch-and-release fishing, and water quality experiments.

Trees for Kids

In FY04, WPD received a \$45,800 Urban Forestry grant through the City Forester. Using the grant, WPD trained 30



teachers, from 13 schools, to incorporate tree studies and tree planting in their curriculums. With their teachers and community volunteers, 400 students planted 115 trees (mostly native) at 13 schools in May and November of 2004.

Through Trees for Kids, teachers also implemented a number of projects. Some helped their classes study and observe the growing cycle of trees, while others re-established woodland areas. Still other teachers studied soil and created aquatic and wildlife habitats. One teacher used the provided trees as a part of a service-learning rain garden project. In the rain garden, the trees were used to expand an observation and data collection site.

“Meaningful Bay Experience” Partnerships

WPD teamed up with both old and new partners to provide “Meaningful Bay Experiences” for over 1,300 District youths in FY04. Some newly completed and on-going examples of this work include:

The Student Conservation Association (SCA): SCA received a sub-grant to provide a “Meaningful Bay Experience” for District students through their DC Urban Tree House watershed education program, and submitted their final report to WPD in

Environmental Education and Outreach (cont.)

FY04. Overall, the program served 170 youth from 4 schools through 96 classroom visits and 6 field experiences. Activities included water quality and plankton studies on the Anacostia River, tree planting, storm drain stenciling, and habitat garden maintenance.

2004 National Oceanic Atmospheric Administration (NOAA) Grant: WPD provided 845 students with a “Meaningful Bay Experience” through a \$150,000 2004 NOAA grant. This grant was managed by the WPD in partnership with five non-profit environmental organizations and several District government agencies.

With grant funds, a variety of experiences were provided, including the week long



program at Camp Riverview. Hands-on watershed education activities at the camp included: wetland study and planting, species richness surveys by boat to determine water quality, maintenance of a native vegetable and herb garden, and exploration of the Potomac River by canoe. In addition, a group from the Mayor’s Youth Leadership Program studied invasive plants and removed English Ivy from the forest.

Hard Bargain Farm: The Watershed Protection Division hosted 5 environmental education overnight events at the Hard Bargain Farm, for almost 100 students, in FY04. Students toured the farm, learned to canoe, and participated in hands-on activities aimed at understanding water pollution. For example, one hands-on activity involved a watershed walk and

the collection of macro-invertebrates to determine stream health.

Schoolyard Greening Consortium

The Watershed Protection Division continues to play a key role in the DC Schoolyard Greening Consortium (SGC). Founded in May of 2003, SGC’s mission is “to increase and improve schoolyard green spaces to promote ecological literacy and environmental stewardship among students, teachers, school staff, parents, and the surrounding community.” To outreach to teachers potentially interested in schoolyard projects, the SGC hosted the 1st Annual DC School Gardens tour in June of 2004. The tour stopped at four different school gardens in the city and provided teachers with information on getting a garden project started, garden theme ideas, and much more. To help further achieve its mission, the SGC was awarded a \$10,000 grant in 2004 by the Spring Creek Foundation to create an SGC website that will provide locally based schoolyard greening information to District teachers and other interested individuals. Additionally, the grant will help fund an intern to examine the District’s Public School Standards for Teaching and Learning and highlight areas where outdoor environmental education can be utilized to reach the required standards. In 2005, the SGC plans to host a teacher-training workshop and to host the 2nd Annual DC School Gardens Tour.

Rain Barrel Outreach Program

In FY03, WPD awarded a grant for a rain barrel outreach program. In FY04, the grant recipient, Alliance for the Chesapeake Bay,



hosted informational meetings on the use and installation of rain barrels, and distributed 125 barrels to

Environmental Education and Outreach (cont.)

District residents. Follow-up visits to individual homes have ensured proper installation and maintenance of the rain barrels. In addition to this work, a similar grant has been awarded to DC Greenworks and Shaw EcoVillage for an education and outreach program, and for construction and installation of more than 100 rain barrels, made from discarded food product barrels, at residences within the combined sewer area of Northeast Washington, DC.

SCS Program

The Watershed Protection Division's Schoolyard Conservation Site (SCS) Program, "Greener Schools, Cleaner Water", continues to provide teachers with the training and financial resources to utilize their schoolgrounds for outdoor environmental education that focuses on nonpoint source water pollution. Teachers are provided with curricula and habitat design training, with an emphasis on low impact development (LID) techniques that help improve the quality and reduce the quantity of stormwater runoff on their schoolgrounds.



In fiscal year 2004, the Watershed Protection Division selected the National Wildlife Federation to implement its schoolyard program in partnership with the Chesapeake Bay Foundation (CBF) and the Potomac Conservancy. Six schools (Burroughs, Draper, and Seaton Elementary and Cardozo, Eastern and Roosevelt Senior High School) were

selected to participate in the program. In August, teachers from each of these schools participated in a week long training conducted by the Chesapeake Bay Foundation, consisting of hands-on environmental education training.



Highlights of the week included a trip along the Potomac and Anacostia Rivers, a visit to the Chesapeake Bay

Foundation's Clagett Farm, and other activities at National Park Service properties. This training provided the teachers with a background in nonpoint source water pollution and its effects on the Chesapeake Bay, and also introduced them to local environmental sites where they could take their students. In the fall of 2004, the teachers participated in National Wildlife Federation's "Schoolyard Habitats" training and additional trainings by CBF on creating a schoolyard project. Teachers were introduced to schoolyard mapping, habitat design and low impact development, soil testing, selecting plant materials, and planting guidelines. They were also introduced to activities and curriculum connections that could be used for outdoor education in a variety of subject areas.

The WPD will continue to work with these schools in FY 2005. Participating schools will be provided with assistance to develop design plans for their schoolgrounds. With the help of the Potomac Conservancy, the schools will be planning a Community Action Day in the spring or fall of 2005 to install the gardens and increase community involvement in the SCS Program.

In addition to these six schools, WPD continues to work with several schools that participated in the Schoolyard

Environmental Education and Outreach (cont.)

Conservation Program in 2003 to install their garden sites. Rain gardens have been successfully installed at the three schools that participated in the 2002 Program (Ketcham, P.R. Harris, and River Terrace Elementary).

Teacher Training

The WPD continues to provide teacher training in programs such as WET, Project Wild, and Project Learning Tree. During 2004, 193 educators participated in 16, six-hour workshops. In addition to this work, a sub-grant has been awarded to Bridging the Watershed to train 10 high school teachers in water quality monitoring. The grant also provides water quality testing equipment for each teacher.

Pollution Prevention

Highlights:

- ✂ Oversaw “Clean Marina” certification of two new District marinas
- ✂ Identified a priority DC park for a NRCS-led soil erosion mitigation project and began the design process
- ✂ Soil and Water Conservation District Citizen Advisory Committee — installed more than 125 storm drain markers

Clean Marina Program

The Clean Marina Program is a voluntary program through which marinas and boat club operators in the District of Columbia work to make their operations more environmentally responsible. Representatives from five different marinas comprise the Clean Marina Advisory Committee, which meets regularly to discuss program progress, conduct marina visits, and plan for the future of the program. During FY 2004, the Advisory Committee certified two marinas—both on the Anacostia River—and began making plans for a boater education event to be held in spring, 2005. The Advisory Committee also assisted with updating the Clean Marina Guidebook and voted to change the program name from Green Marinas to Clean Marinas to align the District of Columbia’s program with other programs nationwide.

Soil Assessment of DC Parks

In FY02, the District of Columbia Department of Health and the USDA-Natural Resources Conservation Service (NRCS) entered a cooperative agreement

to inventory and evaluate the soil erosion on District of Columbia park properties, and implement one or more of these sites as a restoration demonstration project. A site inventory and assessment of soil erosion problems on 87 properties managed by the District’s Department of Parks and Recreation (DPR) has already been completed. The final NRCS report summarizes and prioritizes each park according to erosion and safety hazard severity. NRCS is currently contracting a



portion of this project to Straughan Environmental Services, Inc. (SES). SES will develop a preliminary design for Walter Pierce Park in accordance with NRCS Conservation Practice Standards, and provide technical assistance to DPR in presenting the conceptual design to the local community.

Soil and Water Conservation District Citizen Advisory Committee

In FY04, the members of the District of Columbia Soil and Water Conservation District Citizen Advisory Committee (SWCD-CAD) designed “no dumping, drains to river” storm drain markers. The markers have a picture of a striped bass, native to area waters, and have text in English and Spanish. Working with school and volunteer groups throughout the city, SWCD-CAC members installed more than 125 storm drain markers. The project is ongoing and has generated interest from DPR and community groups.



Future Challenges and Actions

In fiscal year 2004, the District of Columbia's Watershed Protection Division will continue to follow the directive of its NPS Management Plan. Planned activities for NPS programs include:

Stormwater, Sediment, Floodplain Management, and Low Impact Development:

- ✂ Develop a system for handling National Pollution Discharge Elimination System (NPDES) stormwater pollution prevention plans and permit applications for construction activities that disturb more than 1 acre of land.
- ✂ Update the District's Floodplain Management Regulations pursuant to changes in the National Flood Insurance Program.
- ✂ Review and select from applications for LID implementation.

Inspection and Enforcement:

- ✂ Expand the District's Storm Water Management Guidebook to reflect new developments in areas such as industrial and commercial pollution prevention planning, redevelopment project design flexibility, low impact design techniques, and non-structural urban BMPs, such as street sweeping, landscaping for storm water facilities, rooftop treatment, and proprietary storm water products.
- ✂ Conduct a performance monitoring study of BMPs that utilize filtration for stormwater treatment.

Habitat Creation and Restoration:

- ✂ Complete stream and watershed restoration designs for Watts Branch and coordinate restoration construction in Pope Branch.
- ✂ Create a Watershed Implementation Plan for Rock Creek. As part of this plan, the DOH will explore the possibility of conducting restoration projects in some of the Creek's subwatersheds and their associated streams.
- ✂ Identify construction funding for the 6-acre Heritage Island wetlands, as designed by the US Army Corps of Engineers.
- ✂ Finalize watershed LID grant agreements in Pope Branch, Watts Branch, and Ft. Dupont.

Environmental Education and Outreach:

- ✂ Conduct an evaluation of the Meaningful Bay Experience NOAA grant program.

- ✧ Promote the new neighborhood rain barrel program, launched by DC Greenworks and Shaw EcoVillage, and funded by WPD.
- ✧ Expand the watershed education experience for an additional 100 students at Hard Bargain Farm.

Pollution Prevention:

- ✧ Implement a Sustainable Gardening Practices Program in partnership with a local nonprofit organization, Garden Resources of Washington (GROW), to provide training and technical assistance to District residents involved in community gardens, and to DC public schools.
- ✧ Certify at least four more “Clean Marinas” in 2005. In addition, marinas that have been certified will work to further improve their pollution prevention records.
- ✧ Apply for EPA No Discharge Zone (NDZ) status for DC waters.

The highly urbanized setting and the multiplicity of land ownership within the city can present challenges to NPS pollution reduction; however, they also present opportunities to form creative partnerships and test innovative technologies. An ongoing goal of the NPS Management Program is to continue to develop monitoring and measurement techniques to further assess the effectiveness of NPS pollution control programs. Additionally, the District of Columbia’s Watershed Protection Division is working to further integrate its regulatory and non-regulatory branches.

By strengthening its existing programs and continuing to seek innovative solutions for reducing NPS pollution in an urban setting, the District of Columbia will be moving steadily toward reaching the goals outlined in its NPS Management Plan.



Appendix A: Financial Information

<u>FY 2004 Grant</u>	<u>Source</u>	<u>Federal</u>	<u>Match</u>
Nonpoint Source Implementation	EPA	\$1,447,300	\$964,867
Chesapeake Bay Implementation	EPA	\$767,000	\$767,000
Meaningful Bay Implementation	NOAA	\$150,000	\$36,036
Pollution Prevention	EPA	\$30,000	\$30,000



Appendix B: Agency Partners



District of Columbia- Lead Agency:

Department of Health, Environmental Health Administration, Watershed Protection Division

City Government:

DC Department of Parks and Recreation

DC Department of Transportation

DC Office of Planning

DC Public Schools

DC Water and Sewer Authority

Federal Government:

Architect of the Capitol

National Park Service

US Army Corps of Engineers

US Fish and Wildlife Service

USDA Natural Resources Conservation Service

US Environmental Protection Agency

US Geological Survey

Various federal facilities

Local Groups:

Anacostia Watershed Society

Chesapeake Bay Program

DC Greenworks

Green Spaces for DC

Howard University

Izaak Walton League

Living Classrooms Foundation – Washington, D.C.

Metropolitan Washington Council of Governments

Natural Resources Defense Council

Shaw EcoVillage

Student Conservation Association

Washington Parks & People